UNITED NATIONS

A

General Assembly

Distr.
GENERAL

A/46/615
8 November 1991

ORIGINAL: ENGLISH

Forty-sixth session
Agenda item 77 (e)

DEVELOPMENT AND INTERNATIONAL ECONOMIC COOPERATION: ENVIRONMENT

Large-scale pelagic driftnet fishing and its impact on the living marine resources of the world's oceans and seas

Report of the Secretary-General

CONTENTS

		Paragraphs	Page
I.	INTRODUCTION	1 - 7	3
II.	ACTIVITIES OF INTERGOVERNMENTAL ORGANIZATIONS	8 - 22	4
III.	REVIEW BY REGIONS	23 - 120	7
	A. Atlantic Ocean	23 - 28	7
	B. Indian Ocean	29 - 33	8
	C. South Pacific	34 - 39	9
	D. North Pacific	40 - 120	10
	1. Description of the large-scale driftnet fisheries in the North Pacific	40 - 46	10
	2. Scientific Review of North Pacific high seas driftnet fisheries	47 - 120	12

CONTENTS (continued)

		Paragraphs	Page
IV.	COMMENTS BY STATES ON THE SCIENTIFIC REVIEW OF NORTH PACIFIC HIGH SEAS FISHERIES	121 - 139	24
	A. Incidental catch	121 - 126	24
	B. By-catch of endangered and threatened species	127 - 129	26
	C. Squid driftnet fisheries	130 - 131	27
	D. Alternative technology	132 - 136	27
	E. Conservation and management measures	137 - 139	28

I. INTRODUCTION

1. At its forty-fifth session, in its resolution 45/197 of 21 December 1990, the General Assembly reaffirmed its resolution 44/225 and called for its full implementation by all members of the international community, in accordance with the measures and time-frame elaborated in paragraph 4 of that resolution concerning large-scale pelagic driftnet fishing on the high seas of all the world's oceans and seas, including enclosed and semi-enclosed seas.

2. It will be recalled that under that paragraph the Assembly had recommended that all members of the international community agree to the following measures:

> "(a) Moratoria should be imposed on all large-scale pelagic driftnet fishing on the high seas by 30 June 1992, with the understanding that such a measure will not be imposed in a region or, if implemented, can be lifted, should effective conservation and management measures be taken based upon statistically sound analysis to be jointly made by concerned parties of the international community with an interest in the fishery resources of the region, to prevent unacceptable impact of such fishing practices on that region and to ensure the conservation of the living marine resources of that region;
>
> "(b) Immediate action to reduce progressively large-scale pelagic driftnet fishing activities in the South Pacific region leading to the cessation of such activities by 1 July 1991, as an interim measure, until appropriate conservation and management arrangements for South Pacific albacore tuna resources are entered into by the parties concerned;
>
> "(c) Immediate cessation of further expansion of large-scale pelagic driftnet fishing on the high seas of the North Pacific and all the other high seas outside the Pacific Ocean, with the understanding that this measure will be reviewed subject to the conditions in paragraph 4 (a) of the present resolution."

3. In paragraph 5 of resolution 45/197, the General Assembly requested the Secretary-General to bring the resolution to the attention of all members of the international community, intergovernmental organizations, non-governmental organizations in consultative status with the Economic and Social Council and well-established scientific institutions with expertise in relation to living marine resources.

4. Accordingly, the Secretary-General sent a note verbale to all members of the international community, drawing their attention to General Assembly resolution 45/197. Letters were also addressed to the intergovernmental organizations and non-governmental organizations having consultative status with the Economic and Social Council and to well-established scientific institutions with expertise in relation to living marine resources.

5. In accordance with paragraph 4 of resolution 45/197 the Secretary-General has also received reports from the specialized agencies, including the Food and Agriculture Organization of the United Nations, and other appropriate organs and organizations of the United Nations system, as well as the various global, regional and subregional fishery organizations.

6. The Secretary-General has received a number of responses and submissions from States, intergovernmental and non-governmental organizations and scientific organizations, which have been taken into account in the preparation of the present report. He wishes to express his appreciation for all the contributions.

7. The present report does not cover areas that have already been dealt with and should therefore be read together with the report of the Secretary-General submitted to the General Assembly at its forty-fifth session (A/45/663 and Corr.1).

II. ACTIVITIES OF INTERGOVERNMENTAL ORGANIZATIONS

8. In its submission to the Secretary-General of 4 September 1991 the European Community reiterated its commitment to the full, timely and effective implementation of General Assembly resolution 44/225 and, in particular, to the time-frame provided for in paragraphs 4 (a) and (c). The submission noted that the Community was concerned about the effects that large-scale pelagic driftnet fishing could have on the living marine environment. The Community envisaged measures that would go beyond the General Assembly resolution, inter alia, by introducing similar measures within the Community's own fishery jurisdiction.

9. On 28 October 1991, the European Community Council of Fisheries Ministers announced that it had reached agreement on a series of conservation measures, some of which related directly to large-scale driftnet fishing. It was agreed that:

(a) Fishing by Community vessels with driftnets longer than 2.5 kilometres was prohibited in Community waters as well as on the the high seas;

(b) It was decided, however, that the management regime for driftnets in the Baltic Sea would be established within the framework of the International Baltic Sea Fishery Commission;

(c) The decision on driftnets could be modified in cases where effective conservation and management measures were taken on the basis of statistically sound analysis;

(d) An exception was allowed until 3 December 1993 for Community vessels that have used driftnets in the fishery for albacore tuna in the North-East Atlantic during at least the last two years. These vessels would be inscribed on a Community register and would be able to use driftnets of a total length

not exceeding 5 kilometres (twice 2.5 kilometres), provided that the nets were submerged at a depth of at least 2 metres;

(e) This exemption would expire on 13 December 1993, unless it could be demonstrated by a scientific study established by the Community that there was no ecological risk linked with its continuation.

10. General Assembly resolutions 44/225 and 45/197 did not provide a definition of the length of the nets which should be considered large-scale driftnets. It will be recalled that for the purposes of the Convention for the Prohibition of Fishing with Long Driftnets in the South Pacific of 1989 (the Wellington Convention) a driftnet was defined, inter alia, as "a gillnet or other net or combination of nets which is more than 2.5 kilometres in length". The decision by the European Community Council of Fisheries Ministers to ban fishing by Community vessels with driftnets longer than 2.5 kilometres constitutes a significant step in the establishment of a globally accepted definition of the length of a large-scale driftnet. This emerging trend is reflected in the legislation of States such as Australia, New Zealand, Fiji and Indonesia (see paras. 32 and 37).

11. The Northwest Atlantic Fisheries Organization (NAFO) reported that the NAFO General Council at its 12th annual meeting, in 1990, had confirmed that large-scale pelagic driftnet fishing was not presently practised by NAFO contracting parties in the Convention area. The NAFO General Council had also endorsed the United Nations resolution on large-scale pelagic driftnet fishing.

12. The Council of the North Atlantic Salmon Conservation Organization (NASCO) responded that NASCO had generally accepted resolution 45/197 and that the Council considered that fisheries carried out by the contracting parties within the NASCO Convention area were consistent with that resolution.

13. The International Commission for the Conservation of Atlantic Tunas (ICCAT) adopted, in November 1990, a resolution in support of General Assembly resolution 44/225 regarding large-scale pelagic driftnet fishing on the high seas. It noted, inter alia, particularly relating to the possibility of movement of driftnet vessels from the South Pacific to the Atlantic Ocean as a result of the moratorium on driftnet fishing provided for in paragraph 4 (b) of resolution 44/225, that resolution 44/225 calls for the cessation of further expansion of large-scale pelagic driftnet fishing on the high seas in any of the world's oceans, including the Atlantic Ocean. It called upon all of its member nations to support the intent of resolution 44/225 with regard to moratoria on large-scale pelagic driftnet fishing and with regard to the cessation of further expansion of large-scale pelagic driftnet fishing on the high seas in the Atlantic Ocean.

14. No large-scale pelagic driftnet fishing occurs in the Convention waters of the Inter-American Tropical Tuna Commission. 1/

15. At its ninth meeting (October/November 1990), the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) adopted resolution 7/IX on large-scale pelagic driftnet fishing. The Commission endorsed the

goals of General Assembly resolution 44/225. No member is currently engaged in large-scale driftnet fishing in the Convention area. The Commission expressed concern about the potential impact that the expansion of large-scale pelagic driftnetting into the Convention area would have on marine living resources. To this end, the Commission agreed, in accordance with resolution 44/225, that there would be no expansion of large-scale driftnet fishing into the high seas of the Convention area.

16. At its 19th session, held in Rome from 8 to 12 April 1991, 2/ the FAO Committee on Fisheries was informed that the Committee for the Management of Indian Ocean Tuna of the Indian Ocean Fishery Commission (IOFC) and the Western Central Atlantic Fishery Commission (WECAFC) had, in their respective areas of competence, recommended a moratorium on large-scale pelagic driftnet fishing on the high seas in accordance with General Assembly resolution 44/225.

17. At the same session, there was general agreement that General Assembly resolutions 44/225 and 45/197, which were adopted by consensus, constituted a basis on which all members of the international community had agreed to work. The Committee strongly appealed for their complete and timely implementation in all regions.

18. Attention was drawn to the importance of paragraph 5 of General Assembly resolution 44/225, in which the Assembly encouraged those coastal countries which had exclusive economic zones adjacent to the high seas to take appropriate measures and to cooperate in the collection and submission of scientific information on driftnet fishing in their own exclusive economic zones, taking into account the measures taken for the conservation of living marine resources of the high seas.

19. Concern was expressed about the reported reflagging of vessels by some private fishing interests, which was contrary to the spirit and content of resolution 44/225.

20. In the general discussion, some delegations, while reaffirming their commitment to resolution 44/225 recalled that the moratoria recommended in this resolution would not be imposed in a region or, if implemented, could be lifted, should effective conservation and management measures be taken based upon statistically sound analysis to be jointly made by concerned parties of the international community with an interest in the fishery resources of the region, to prevent unacceptable impact of such fishing practices on that region and to ensure the conservation of the living marine resources of that region. These delegations described the steps being taken to collect scientific data with a view to establishing effective conservation and management measures by June 1992 which would limit to the maximum extent possible the negative effects of the driftnetting gear.

21. Other delegations, however, stated that there was already enough evidence of the unacceptable impact of large-scale pelagic driftnetting on the high seas resources, both targeted and non-targeted, to justify a total ban of the gear on the high seas. Several other delegations emphasized that the onus of

proving that the gear did not have an adverse impact on the marine environment was on the fishing country. In the view of these delegations, additional research might just create unreasonable expectations and should not be used to delay the imposition of the moratoria within the time-frame set in the General Assembly resolutions. Reference was made to efforts to develop a management regime for albacore fishery in the South Pacific region that would not permit the participation of driftnet fishing vessels.

22. According to the submission of Ecuador to the Secretary-General, dated 5 August 1991, consultations were taking place within the framework of the Permanent Commission for the South Atlantic to ban large-scale driftnet fishing in the South Pacific.

III. REVIEW BY REGIONS

A. Atlantic Ocean

23. There are no large-scale pelagic driftnet fisheries in Norwegian waters. There are also no large-scale pelagic driftnet fisheries in Sweden. However, there are driftnet fisheries for salmon, herring and mackerel in the Baltic and Skaggerak and Kattegat. Catches are small from these fisheries and the incidental take of marine mammals is said to be insignificant. No driftnets are used in the waters falling under the jurisdiction of Iceland. Bulgaria has stated that it is not the practice of Bulgarian ocean trawlers to use large-scale pelagic driftnets. 3/

24. It was reported in the submission by the North-East Atlantic Fisheries Commission (NEAFC) that about 70 to 78 French vessels using large-scale driftnets of between 7 and 9 kilometres were engaged in fishing albacore tunas. Four United Kingdom vessels and about five Irish vessels are also engaged in large-scale driftnet fishing in the North Altantic (see para. 9 above).

25. NEAFC also reported that no response on this issue had been received from the Faroe Islands, the Soviet Union or Poland.

26. Venezuela, in its submission dated 7 August 1991, informed the Secretary-General that no large-scale driftnet fishing was carried out in waters under Venezuelan sovereignty. However it had issued a resolution banning the use of fixed gillnets or driftnets by all national ships of 14 metres in length or longer in waters falling under Venezuelan jurisdiction, or by ships flying the flag of the Republic of Venezuela on the high seas.

27. According to its submission to the Secretary-General dated 26 July 1991, Uruguay stated that it did not authorize the use of large-scale driftnets on any ship carrying its flag or any ships of third States.

28. It has been noted that Taiwanese large-scale driftnet vessels fish for squid in the South Atlantic near the Falkland Islands. 4/ In the report of the Workshop on Mortality of Cetaceans in Passive Fishing Nets and Traps, held

in La Jolla, California, from 22 to 25 October 1990, it was stated that a fleet of perhaps several hundred Taiwanese driftnet vessels was known to fish in the vicinity of the South Atlantic islands off Tristan da Cunha and Gough and farther to the east. One vessel that went aground in South African waters carried 145 kilometres of driftnetting. There is no information available on landings. Increased discharges and transshipments of frozen tuna in Cape Town indicate that the fishery has been rapidly expanding. Based on reports for one month on the fishing grounds and a total of 500 vessel months, 7,500-10,000 dolphins and 1,000-1,500 small whales may be killed annually; the species make-up of this by-catch is unknown.

B. Indian Ocean

29. According to the submission by Australia of 6 September 1991 to the Secretary-General, reports of expansion of driftnet fishing activity in the Indian Ocean are of serious concern, as any expansion would pose a serious threat because it could lead to further depletion of the already threatened southern bluefin tuna resource. According to the submission of the South Pacific Forum catches of southern bluefin tuna in driftnet fisheries were of considerable concern, as this species currently was considered to be at historically low levels of parental biomass. The fishery is managed under a tripartite arrangement between Japan, Australia and New Zealand. There is uncertainty as to whether the stock will recover, even though the catch quotas for the fishery have been drastically reduced in recent years. There is real concern that attempts to manage the southern bluefin tuna fishery may be undermined by driftnet operations, especially in the Indian Ocean.

30. The only large-scale driftnet fishery that exists in the region is the Taiwanese high seas large-mesh driftnet fishery. 5/ The Government of Japan took measures, effective 15 August 1990, to prohibit large-scale driftnet fishing in the waters other than the Pacific Ocean, such as the Indian and Atlantic Oceans. 6/ The Republic of Korea has given assurances that their nationals and vessels will not engage in driftnet fishing in the Indian Ocean. 7/

31. The submission by Australia stated that the apparent expansion of driftnet fishing activity in the Indian Ocean since 1989 was directly at odds with the provisions of paragraph 4 (c) of resolution 44/225. The fact that Taiwanese driftnet fishing interests continued to operate in that ocean and the scale and impact of their activities was viewed as a matter of great concern. The submission went on to note that the analysis of the impact of the Taiwanese fleet operating in the Indian Ocean had been hampered severely by the lack of information on catch, effort and by-catch. The potential for stock depletion and fishery interactions between the surface driftnet and longline fisheries for albacore, similar to those which occurred as a result of driftnet fishing in the South Pacific, must be of concern to members of the international community with an interest in the effective conservation and management of albacore and southern bluefin tuna resources in the Indian Ocean.

32. Within the framework of the implementation of General Assembly resolution 45/197, the Government of Indonesia has issued a decree with respect to the use of large-scale driftnet fishing within the Indonesian exclusive economic zone, which stipulates that the length of the driftnet may not exceed 2.5 kilometres (Decree No. 816/KPTS/IK.12/90).

33. At present, no fishing vessel, foreign or local, is allowed to engage in large-scale driftnet fishing in the waters of the Union of Myanmar. The Director-General of the Fisheries Department is vested with the authority to issue necessary directives to prohibit large-scale driftnet fishing in the waters of the Union of Myanmar.

c. South Pacific

34. Sixteen countries have signed the Convention for the Prohibition of Fishing with Long Driftnets in the South Pacific, which was adopted at Wellington on 24 November 1989. The Wellington Convention came into force on 17 May 1991, following ratification by the Cook Islands, Tokelau, New Zealand and the Federated States of Micronesia. On 26 February 1991, Protocol I to the Convention was signed on behalf of the United States of America. In accordance with its article 7, paragraph 3, Protocol I enters into force for each State on the date of deposit of its instrument of ratification with the New Zealand Government.

35. It will be recalled that, according to article 3 of that Convention, each party undertakes to take certain specific measures against driftnet fishing activities, for example, not to assist or encourage the use of driftnets and, consistent with international law, to restrict such activities in the Convention area. Each party may also take measures such as to prohibit the landing of driftnet catches within its territory and to restrict port access and port servicing facilities for driftnet fishing vessels etc. In the Convention, a driftnet is defined as a "gillnet or other net or a combination of nets which is more than 2.5 kilometres in length, the purpose of which is to enmesh, entrap or entangle fish by drifting on the surface of or in the water". The Convention establishes institutional arrangements giving the South Pacific Forum Fisheries Agency (FFA) responsibility for collection, preparation and dissemination of information, as well as facilitation of scientific analyses and preparation of annual reports on driftnet fishing activity in the Convention area.

36. Two protocols to the Convention were also open for signature. Parties to Protocol I (States outside the Convention area) agree to prevent their nationals and vessels from fishing with driftnets in the Convention area and agree to cooperate in the development of conservation and management measures for South Pacific albacore within the Convention area. Parties to Protocol II (States with fisheries jurisdiction in waters adjacent to the Convention area), agree to prohibit fishing in such waters.

37. Fiji banned the use of pelagic driftnets in its waters in March 1991, through the publication of the Fisheries (Amendment) Regulation of 1990, although as a matter of policy the licensing of driftnetters had ceased since 1988.

38. The Japanese large-scale driftnet fishing fleet has withdrawn from the area, and there were no Korean vessels using large-scale pelagic driftnets in the area during the 1990/1991 southern surface albacore season. However, there were reports according to the submission by Fiji dated 24 July 1991 that several Taiwanese vessels (less than 12, apparently) were using large-scale pelagic driftnets in the area. According to the submission of the South Pacific Forum, Taiwanese fishing industry representatives have indicated that they accept resolution 44/225 and have announced that Taiwanese registered driftnet vessels would not fish in the South Pacific beyond the 1990/1991 season.

39. Representatives from South Pacific countries have met on several occasions with representatives from Japan, Taiwan Province of China, the Republic of Korea and the United States of America to discuss the development of a management regime for the southern albacore resource. In its submission, Australia indicated that it agreed with other South Pacific countries that a precondition for the establishment of a management regime for albacore would be a clear commitment from all parties not to conduct driftnet fishing in the region. The review of driftnet fishing in the South Pacific submitted by members of the South Pacific Forum to the Secretary-General stated that little success had been achieved to date in ongoing albacore tuna management consultations with those interests that had used driftnets in their recent operations in the South Pacific.

D. North Pacific

1. Description of the large-scale driftnet fisheries in the North Pacific 8/

(a) Squid

40. A Japanese driftnet fishery for squid developed in 1978 in the North Pacific. The development of a gillnetting technology for squid was followed by a very rapid increase of effort, making this one of the most important Japanese offshore fisheries. In the early 1980s, the Republic of Korea and Taiwan Province of China also commenced fisheries for squid.

41. In the Japanese fishery, the vessel sizes range from 60 to 500 GRT, with two modes at 100 to 150 tons and 250 to 300 tons. There were 534 vessels engaged in the Japanese fishery in 1981, and the number of vessels declined to 457 in 1990. In later years, catches of squid ranged from 150,000 to 200,000 tons. The nets, in many cases composed of individual 50 metre panels (8 metre depth) with mesh sizes of 100 to 135 millimetres, are strung together in 5 kilometre lengths. However, the entire nets used by one vessel are not

continuous. One set consists of up to 12 sections of about 5 kilometre nets, with gaps of about 100 to 1,000 metres. Nets are set on the surface and retrieval begins before dawn. The Japanese fishery is regulated by licence limitation, season and area and other regulations.

42. The Korean fishery had, by 1987, expanded to 140 vessels of approximately 300 GRT. This fleet is also under licence limitation. According to the submission of the Republic of Korea to the Secretary-General dated 6 August 1991, as of 9 July 1991 there were 138 licensed fishing vessels in the North Pacific - 18 less than were operating in 1989 - and this reduction had been achieved by the imposition of restrictions on the issue of new licences. It was also noted that the United States-Korean agreement on regulatory and monitoring programmes for the Korean squid fishery in the North Pacific was renewed on 8 May 1991.

43. The Taiwanese fleet had about 100 vessels in 1987, 179 in 1988, and 138 in 1990. Many of these vessels also participate in the large mesh fishery. A total of about 640 vessels took part in the squid fishery in 1990.

(b) Large-mesh

44. The large-mesh fishery targeting on tunas and billfishes has its origin in a 100-year-old Japanese fishery in the coastal waters of Japan, a portion of which expanded as a large-scale offshore operation in the North Pacific in the mid-1970s and also in the South Pacific in the mid-1980s. Japan suspended driftnet fishing in the South Pacific in 1990. The major fishing season is from January to May in the North Pacific. The number of Japanese vessels operating in 1988 was 459, including those operating only within Japanese 200 nautical miles waters, ranging from 10 to 500 GRT with a reported total catch of about 40,000 tons of all species from the North and South Pacific. A substantial number of large-mesh driftnet fishing vessels in the North Pacific are also engaged in the squid driftnet fishery.

45. Taiwan Province of China has also recently engaged in a large-mesh fishery. The driftnet vessels from Taiwan Province of China employ both large-mesh from late April to December and small-mesh squid driftnets from May to December in the North Pacific. The Taiwanese fleet included 138 vessels in 1990.

(c) Salmon

46. Historically, there have been two types of salmon driftnet fisheries, one using a mothership and the other being land-based. These fisheries take place in the western North Pacific and the Bering Sea in fishing areas established under the International North Pacific Fisheries Commission (INPFC) Convention. The effort in those fisheries has decreased drastically in recent years. In the 1970s, 10 motherships, with up to 43 catcherboats each, operated in the mothership fishery. Recently the mothership fishery has converted to a land-based operation that does not utilize large motherships. The number of vessels and their approximate size operating in 1991 were 109

boats of less than 127 GRT. The fisheries, which mainly operate from June to July, are limited by area and other regulations. The catch in 1990 was about 10,000 tons of salmon.

2. Scientific Review of North Pacific high seas driftnet fisheries

47. Pursuant to United Nations resolutions 44/225 and 45/197, a Scientific Review of the best available information on the impact of large-scale pelagic driftnet fishing on the living marine resources of the North Pacific Ocean was convened from 11 to 14 June 1991 at the Institute of Ocean Sciences, Department of Fisheries and Oceans, in Sidney, British Columbia.

48. Scientists from Japan, the United States, Canada, the Republic of Korea and Taiwan Province of China reviewed data mostly obtained from the Japan-United States-Canada joint scientific observer programme conducted since 1989 on the Japanese squid driftnet fishery. A review of the driftnet fisheries by the Republic of Korea and Taiwan Province of China was not possible, as detailed observer data and commercial effort data from their operations had not been made available by the time of the meeting.

49. The meeting considered the impact of large-scale driftnet fishing on four species: marine mammals, salmonids and squid, non-salmonid fishes and turtles and marine birds. The meeting divided itself into working groups, which considered each of the four species. The Report on the meeting dealt with the distribution and identity of the stock, mortality, abundance, its status and impact and information gaps. For the purposes of the present report, only the section dealing with status and impact of the stock/species and the gaps in information have been excerpted. The report, which constituted the outcome of the meeting as agreed to by the participants, came to the conclusions set out below. 9/

(a) Marine mammals

Northern right whale dolphin

(i) Stock/species status and impact

50. Overall, the group agreed that there had been a decline in the population of the northern right whale dolphin (NRWD) over the past 10 years due to the impact of the driftnet fisheries. There was uncertainty regarding the rate and severity of the decline. The group agreed that confidence intervals for the population trajectories were needed. There was agreement that the population would continue to decline if current catch rates and levels of effort were maintained.

51. The importance of obtaining stock structure information for NRWD was agreed. The working group noted that the analyses above had, of necessity, treated the NRWD for the North Pacific as a single population, but recognized the need to assess the actual impact of driftnet catches on separate stocks of NRWD, if and when these were identified.

(ii) Information gaps

52. In addition to the need for stock identity information, data on the age and sex structure of the by-catch needed to be further examined. There appear to be differences in catchability by both age and sex.

Northern right whale

(i) Stock/species status and impact

53. Direct catches of a small number of right whales after cessation of commercial exploitation were likely to have a significant detrimental effect on the very small North Pacific populations. Any additional direct and incidental catches would move these whales closer to extinction in the North Pacific Ocean. This was the most endangered large whale in the North Pacific.

(ii) Information gaps

54. Data were needed on the cause of mortality for any stranded right whales.

Humpback whale

Stock/species status and impact

55. Concern was expressed about any humpback whales that might get entangled after they departed their breeding area around the Ryukyus and Hawaiian Islands and across the driftnet fishing grounds as they migrated to their North Pacific summering area. Greatest concern was noted for the western stock that consisted of approximately 200 animals. Concern was expressed about the migration route of the western stock through areas where driftnetters were known to operate during the migration. Japanese vessels do not fish in May in the area of concern.

Pacific white-sided dolphin

(i) Stock/species status and impact

56. Information was provided on species status. 10/ It was concluded that the population size in 1990 was 94 per cent to 97 per cent of the unexploited carrying capacity. It was suggested that the reason for the relatively high population level was that the span of the catch history was short.

57. A similar calculation done by the group using "worst case" parameter estimates suggested with very high probability that the population was near or

above the maximum sustainable yield (MSY) level of 60 per cent of the unexploited population size. However, since the stock structure was unknown, it was possible that some stocks were below MSY while others were at a level higher than MSY.

58. By comparing the maximum value of the current catch estimate and the lowest population estimate, the group computed that the approximate upper bound of the by-catch was currently about 5 per cent of the stock size.

59. In conclusion, it was agreed that the species was probably at a high level but was declining as a result of by-catch.

(ii) Information gaps

60. Virtually all of the information gaps concerning the Northern right whale dolphin applied here as well.

61. It was especially appropriate to highlight needs for life history information in catch data and for the use of this life history information in population modelling.

62. In particular, it was noted that life history information was provided on a limited sample. 11/ It was also noted that the percentage of juveniles in the catch was high and that there were gaps in the age structure of the catch. Important unresolved questions were the source of the gaps in the age distribution and the effect of a high proportion of juveniles in the by-catch on population dynamics and sustainable yield.

Dall's porpoise

(i) Stock/species status and impact

63. The group agreed that most of the driftnet mortality was probably inflicted on the South of Kamchatka stock, South of the Aleution Islands stock and Central Gulf of Alaska stock and that because of the large size of these stocks the total takes were not sufficient to cause the combined populations to decline. However, the status of the truei-type stock was of grave concern, because of the large catches in the directed harpoon fishery. Any additional take in the driftnet fisheries would be disadvantageous to the stock. However, recent driftnet operations in the area of this stock were thought to have been fewer.

(ii) Information gaps

64. Information was needed on mortality estimates by stock and abundance estimates by stock.

Northern fur seal

(i) Stock/species status and impact

65. The population of Northern fur seals on the Pribilof Island was considered stable, but reduced. The Asian population of Northern fur seals was considered stable.

(ii) Information gaps

66. Data were needed on incidental take for the Korean squid driftnet fishery; the proportion of catch from each of the populations; and information on the relationship between fur seal migration paths and the Korean and Taiwanese squid driftnet fisheries in the western North Pacific.

Striped dolphin

(i) Stock/species status and impact

67. Catch in the coastal Japanese directed fisheries had declined to low levels over the last 20 years due to overexploitation. Any additional mortality from other sources including pelagic driftnets would be detrimental to the stock.

(ii) Information gaps

68. The by-catch rate of 1.27 animals per 1,000 tons from September to December in the Japanese large-mesh driftnets was new information and cause for concern. Additional data for the main season of this fishery (January to April) would be available at a later date.

Common dolphin

Stock/species status and impact

69. In the absence of information on stock identity and abundance and complete catch statistics, it was not possible to assess the status of the population(s) or impacts of the driftnet fisheries.

Other small cetaceans

70. A number of small cetaceans were taken in various North Pacific large-scale driftnet fisheries, including at least the following species: pygmy killer whale (Feresa attenuata), Risso's dolphin (Grampus griseus), melon-headed whale (Peponocephala electra), false killer whale (Pseudorca crassidens), pantropical spotted dolphin (Stenella attenuata), rough-toothed dolphin (Steno bredanesis), Cuvier's beaked whale (Ziphius cavirostris), other beaked whales, and pygmy sperm whales (Kogia supp.).

Stock/species status and impact

71. Based on the available data from some 1990 fisheries, the relatively small catches of these species were not likely to have any significant effect. However, concern was expressed about any high catches of beaked whales in localized areas.

Other large cetaceans

72. The following large whales occurred in the large-scale driftnet fishing region of the North Pacific: blue whale, fin whale, Bryde's whale, sei whale, minke whale, and sperm whale. Any of these whales might be taken in driftnet fisheries. The group was concerned that most large whales caught in driftnet fisheries would not be observed. This was because whales that became entangled on the high seas probably towed pieces of driftnet away from the fishing area and died at a later time.

73. The blue whale had a very small population size, and any incidental catches would slow the recovery of this endangered species.

(b) Salmonids and squid

Species of concern and other sources of mortality

74. The group identified six species of salmonids and one species of squid that were taken in the high seas driftnet fisheries in the North Pacific Ocean to be of primary concern: Sockeye salmon (Oncorhynchus nerka), Chum salmon (O. keta), Pink salmon (O. gorbuscha), Coho salmon (O. kisutch), Chinook salmon (O. tshawytscha), Steelhead trout (O. mykiss), Neon flying squid (Ommastrephes bartrami).

75. The group identified two sources of by-catch of salmonids in the driftnet fisheries of the North Pacific Ocean - legal incidental take in the regulated squid driftnet fishery and illegal capture of salmonids outside the regulated times and areas of operation of the driftnet fisheries. The group noted that incidental catches of salmonids in the legal squid driftnet fishery were variable and dependent on annual oceanographic conditions present in the fishing area. Inter-annual variation in water temperature could result in warm water incursions northward in some years, resulting in reduced by-catch of salmonids, while cold water masses moving southward might result in increased by-catches of salmonids in the legal fishing area.

76. A significant level of salmonid catch occurred as a result of illegal fishing activities. Two types of illegal fishing occurred: (a) catches by licensed vessels fishing in violation of national laws and regulations, and (b) unlicensed vessels specifically targeting salmonids. Sightings had been reported of vessels flying the flags of the People's Republic of China, Taiwan Province of China and Democratic Peoples Republic of Korea, which were engaged in illegal salmon fishing on the high seas, and some enforcement measures had been reported.

Gaps in information

77. The magnitude of the illegal harvest of salmonids was a significant limitation to understanding the impact of driftnet fisheries on salmonid resources of the North Pacific. Data were lacking on the number of participants, the parties involved, the level of fishing effort and the magnitude of illegal catches of salmonids. No information was available from which to assess the relative impact of the two types of illegal fishing identified by the group on stocks of Pacific salmonids.

78. There was not enough information on species composition and stock origin for salmonids taken on the high seas by driftnet fisheries. The 1989 and 1990 by-catch data for the legal squid driftnet fisheries provided some information on species composition but no stock origin data were available except for limited data for steelhead trout.

79. The group was of the opinion that the relationship between salmonid distribution and oceanographic conditions in the North Pacific Ocean was poorly understood and that it was particularly important to gather more information. Additional information on salmonid distribution and abundance needed to be collected on a species-by-species basis under various oceanographic conditions, especially in the area of the North Pacific transition zone. Population origin and abundance, and stock identification for neon flying squid were also identified by the group as an important subject for further research.

Impact of North Pacific driftnet fisheries on salmonids and squid

80. Estimates of the 1989 and 1990 salmonid by-catch in the Japanese squid driftnet fishery 12/ were discussed by the group. The estimated level of by-catch of salmonids in 1989 of 1,614 fish and in 1990 of 141,279 fish were considered by the group to have no known significant biological impact. However, such salmonid by-catch levels could have an impact if concentrated on specific stocks.

81. The group also noted that certain biological and oceanographic conditions were important factors in the separation of centres of abundance of squid and salmonids in time and space. Overlap of the distribution of salmon and squid generally occured only in the northern portion of the legal squid fishing areas. The degree of this overlap depended on ocean temperatures. The salmonid by-catch in the legal squid driftnet fisheries would thus vary from low by-catch levels in warm water years to high levels in cold water years.

82. The group expressed great concern over the impact of illegal fishing activities on stocks of North Pacific salmonids. Illegal fishing led to international trade that affected markets for legally caught salmon. Information was provided by Canada in the form of an INPFC document that identified exports of salmon by countries that have no native populations of salmon. Exports from these non-salmon-producing countries were estimated to

be 5,751 tons in 1988 and 4,598 tons during 1989. These reported exports must be considered as minimum estimates of illegal salmonid catches in the North Pacific.

83. The group also considered the impact of the squid driftnet fishery on the neon flying squid resources of the North Pacific. The fishing grounds for neon flying squid had remained relatively constant since the early 1980s, and fishing effort was generally concentrated in a relatively small portion of the fishing area at any one time. Although there was no adequate assessment of squid standing stocks, the abundance of squid as determined from catch statistics appeared to be relatively stable at present.

84. Although catch per unit effort fluctuates from year to year there was no downward trend in the data. A comparison of Korean catch per unit effort of squid and Japanese catch per unit effort of squid showed a strong correlation, thus, indicating that the catch rate was not adversely affecting the overall population of neon flying squid.

85. However, the group noted the absence of an adequate assessment of squid abundance independent of commercial catch statistics. Concern was expressed that catch per unit effort data alone might not be a reliable measure for determining the status of stocks. A Canadian scientist presented instances in which reliance on catch per unit effort data alone had led to stock depletion in finfish, and the group noted the need to determine the status of neon flying squid stocks in the North Pacific, independent of commercial fishery statistics.

Alternative fishing technologies

86. The group identified and discussed several research projects to evaluate alternative fishing technologies. The group noted that INPFC had formed a committee on alternative gear research, and Canada, Japan, and the United States had agreed upon a procedure to evaluate alternative gear technology. A number of documents pertaining to this subject had been reviewed within the INPFC and the International Whaling Commission forums. This review indicated that subsurface driftnets could substantially reduce seabird entanglement. Results for marine mammal and non-target fish species were variable and inconclusive. Taiwan Province of China and the Republic of Korea were also conducting research on alternative gear types.

87. Japan reported that research on subsurface driftnets was being conducted on commercial vessels and would be conducted on research vessels in 1991. The experiments, using six commercial vessels with observers aboard, was intended to make reliable estimates of the effectiveness of subsurface driftnets in reducing by-catch of non-targeted species. Results from these studies and the research vessel work would be available in the fall of 1991 and would be shared with members of the group. Japan would also be conducting tests utilizing modified jigging gear and a mid-water trawl designed to catch neon flying squid. The data from the jigging tests would be available in the fall of 1991, whereas the results from trawling would not be available until the spring of 1992.

88. The Republic of Korea was conducting research on the use of subsurface driftnets and jigging gear as a way of reducing by-catch. The Korean project was described. 13/ The results of the study were expected by the end of 1991. The final report on the 1990 observations of the Korean high seas squid driftnet fishery in the North Pacific Ocean, dated 2 October 1991, would be reviewed at the meeting of INPFC in Tokyo in November 1991. 14/

89. Taiwan Province of China also would be conducting research on the use of subsurface driftnets by commercial vessels. The project was expected to be completed in October 1991 and the results of the study would be available by the end of 1991.

90. In recognizing the importance of this research, the group agreed to exchange and evaluate expeditiously the results of these projects on alternative gear technology.

(c) Non-salmonid fishes and turtles

Albacore tuna

91. Some uncertainty existed about the total catches of albacore tuna in the North Pacific. The results of the recent observer programmes had improved the data regarding drop-out rates and by-catch in the squid driftnet fishery and large mesh driftnet fisheries, however, no reliable estimate of the total fishing mortality due to driftnets was available at the current time. 15/

Other tunas and billfishes

(i) Skipjack, yellowfin tuna, bigeye tuna, and short-billed spearfish

92. These stocks appeared to be healthy, and catches in driftnet fisheries were minor compared with catches from other fisheries exploiting these sources.

(ii) Striped marlin and swordfish

93. These stocks appeared to be healthy. Catches by driftnet fisheries were a significant part of the total catch.

(iii) Blue marlin

94. These stocks were considered to be fully exploited or possibly slightly overexploited. The driftnet catches of this species, however, were a very minor component of the total catch.

(iv) Bluefin tuna

95. The stock status of this species was unknown; however, the driftnet catches were a minor part of the total catch.

(v) Black marlin

96. This species rarely occurred in the area of the high seas driftnet fishery in the North Pacific, and catches in these fisheries were insignificant.

Pomfret and blue sharks

(i) Pomfret

97. Biological data indicated that the species had relatively rapid growth and a short life span; therefore, population turnover was comparatively rapid. However, because there were no estimates of the total stock size, no conclusions could be made of the impact of by-catch on the pomfret stock.

(ii) Blue sharks

98. Blue sharks appeared to be relatively abundant in the North Pacific and made up a significant part of the by-catch in the squid and large-mesh driftnet fisheries. A preliminary stock assessment analysis using longline and driftnet catches had been conducted, which concluded that the impact of the by-catches of blue shark on the stock was insignificant. 16/ However, it was agreed that this analysis was preliminary and that further analysis was required.

Other non-salmonid fishes

(i) Salmon shark

99. Salmon shark was a subarctic species but was sometimes taken in the squid and large-mesh driftnet fisheries as by-catch. No data currently existed on the total size of the stock. Therefore, no conclusion could be made as to the impact of driftnet fisheries by-catch on the stock.

(ii) Yellowtail

100. Yellowtail occurred in a wide area in the North Pacific. Little was known about its ecology and stock status. The size of the yellowtail stock was unknown. However, the total catch of yellowtail by driftnet fisheries was only a small fraction of the total catch by all fisheries targeting yellowtail.

(iii) Other fish species

101. Numerous other species of non-salmonid fishes were caught incidentally in the driftnet fisheries in the North Pacific. In the Canada/Japan/United States of America observer programme, 39 other species of fish were identified. Very little information existed regarding the status of these stocks, and no papers were submitted regarding these species. There was not enough information upon which to make an assessment of impact.

Turtles

102. Marine turtles were caught incidentally in the squid and large-mesh driftnet fisheries of the North Pacific. Three species of marine turtles had been identified specifically as by-catch: leatherback, loggerhead and green turtles. The leatherback and green turtles were listed as endangered by the International Union for Conservation of Nature and Natural Resources (IUCN) and were included in Appendix I of the Convention on international trade in endangered species of wild fauna and flora (CITES). The loggerhead turtle is listed as vulnerable by the IUCN and also appeared in Appendix I of CITES. However, the current stock status of several marine turtle species in the North Pacific was unclear.

103. In the 1990 squid driftnet fishery observer programme on Japanese, Korean and Taiwanese vessels, entanglement of 29 leatherback, one loggerhead, one green, and eight unidentified turtles was observed in approximately 3,280 fishing operations. 17/ Preliminary data collected by observers on the Japanese and Taiwanese large-mesh driftnet vessels indicate that catch rates in the large mesh fishery were substantially higher than in the squid fishery (approximately 50 times). The turtle by-catch in the large-mesh driftnet fisheries was primarily of loggerhead turtles, with leatherback, green, and unidentified turtles also caught.

104. Reliable data on the turtle mortalities were available only for the Japanese squid driftnet fisheries in 1990. Similar data for other high seas driftnet fisheries would become available by this fall. Overall impact assessment of the driftnet fisheries on turtle stocks must wait for the compilation of these data. Based upon best available information 18/ the working group agreed provisionally that:

(a) the impact of the squid driftnet fishery on green and loggerhead turtle stocks was probably negligible because few incidental takes were recorded in the 1990 squid driftnet programmes;

(b) the impact of driftnet fisheries on leatherback turtle stocks might vary from insignificant to very significant, depending on the stock composition of turtles taken by the squid driftnet fishery. If the incidental take came from the Mexican stock, the impact was probably insignificant. If it came from the Malaysian stock, which had been severely depleted, the impact was very significant. The decrease in the Malaysian nesting population had started in the 1960s, prior to the start of the North Pacific high seas driftnet fisheries, and had continued to decline to very low levels. It had been reported that the decline in the Malaysian nesting population was due to over-harvesting of eggs and disturbance of nesting by tourists. 18/

105. The effect of the North Pacific driftnet fisheries on the Malaysian leatherback turtle stock was unknown. Further research was required. In particular, the migration route and pelagic distribution of each turtle stock possibly affected by the North Pacific driftnet fisheries should be investigated as a first priority, and studies should be undertaken to identify which breeding stocks were affected by the driftnet fisheries.

Information gaps

106. The task facing the discussion group of assessing impacts of by-catch was made particularly difficult by the lack of information on the general biology, population dynamics and stock size of some of the species being caught by the driftnet fisheries in the North Pacific. The priority areas for information were the target species and remaining species that make up 90 per cent of the driftnet fisheries by-catch, namely pomfret and blue shark.

107. For turtles, the major information gap involved the pelagic distribution and survivorship of the various stocks and identification of their nesting locations. Such information was especially needed for leatherback turtles caught in the squid and large-mesh driftnet fisheries and loggerhead and green turtles caught in large-mesh driftnet fisheries.

(d) Marine birds

Black-footed albatross

Impact assessment

108. Black-footed albatross populations were currently increasing, but the effects of driftnet fishing in the North Pacific might not yet be showing up in the population. Mortality from the Japanese squid driftnet fisheries appeared to be low (about 0.7 to 1.8 per cent of the total population). However, mortality rates from the other North Pacific high seas fisheries needed to be included before a final assessment could be made.

Laysan albatross

Impact assessment

109. Laysan albatross populations were currently increasing, but the effects of mortality in North Pacific high seas driftnet fishing operations might not be showing up in the population. The group agreed that the impact of driftnet fisheries of this species was demonstrably less than it was for black-footed albatross and appeared to be having negligible impact on this population (mortality is 0.05 to 1.2 per cent of the total population). This assessment is, however, premature in the absence of data from high seas driftnet fisheries other than the Japanese squid fishery.

Sooty shearwater

Impact assessment

110. There was agreement that it would be difficult to assess the impact of mortalities caused by driftnets until all sources of mortality were estimated and more information was available on the biology and population dynamics of this species. Analysis, utilizing Japanese data, indicated that the Japanese fishery was not causing immediate danger to the population (mortality is 0.4 to 1.4 per cent of the total population). 19/ The analysis, however, was

based on short-tailed shearwaters. It was agreed that more information was needed before it could be stated with confidence that the population was not being harmed.

111. The North Pacific driftnet fisheries might impact birds from South America. If this were the case then mortalities in Atlantic fisheries, if they existed, needed to be considered.

Short-tailed shearwaters

Impact assessment

112. The group agreed that there was less concern about the impact of driftnet fisheries on the short-tailed shearwater population than on that of the sooty shearwater. The maximum rate of decrease (0.03 per cent) suggested that the impact was minimal. 19/ It was agreed that additional mortality data, including harvest of juveniles in Australia, needed to be considered.

Buller's shearwater

Impact assessment

113. The population was expanding. If the population was 2.5 million, the fisheries mortality might not be significant (mortality representing 0.01 to 0.20 per cent of the population). If the population was only a few hundred thousand, then the group was concerned about the potential impact of the fishery (mortality representing 0.1 to 1.0 per cent of the population).

Northern fulmar

Impact assessment

114. The group agreed that the Japanese squid driftnet fishery was not having a harmful impact on the population. Indeed, there was the possibility that discarded offal from fishing boats might contribute to increased survival of hatching-year birds. However, a final assessment of the impact could not be made until mortality from the Korean, Taiwanese and large mesh fisheries was available.

Short-tailed albatross

Impact assessment

115. This species was internationally recognized as endangered. 20/ Only small numbers occurred within the North Pacific high seas driftnet area and the chances for mortality were minimal. The group, however, recognized that any by-catch would be of great concern.

Dark-rumped petrel

Impact assessment

116. The Hawaiian population of this species was considered by the United States to be endangered. Small numbers occurred throughout the area of the high seas driftnet fisheries. Chances for mortality occurring in these fisheries were minimal. The group, however, recognized that any take of the Hawaiian subspecies would be of concern.

Newell's shearwater

Impact assessment

117. The Japanese high seas driftnet fisheries operated largely north of the normal range of this species. One specimen was, however, taken in the 1990 fishery. This species was listed as threatened by the United States.

Pink-footed shearwater

(i) Impact assessment

118. This species was thought to be declining. 21/ Assessment of impact, however, was difficult because of lack of information on biology and population. The group did not feel that the reported catch was endangering the population, but many uncertainties exist.

(ii) Information gaps

119. It was noted that, with respect to all the above-mentioned marine birds, mortality data from other Pacific driftnet fisheries were to be incorporated. The extent of tome ami 22/ operations was not well known. The inclusion of mortality from tome ami operations needed further evaluation. In general, it was observed that improved population estimates and information on life histories were required.

Future meeting

120. The International North Pacific Fisheries Commission (INPFC) will hold an international symposium on high seas driftnet fishing in the North Pacific Ocean in Tokyo in November 1991.

IV. COMMENTS BY STATES ON THE SCIENTIFIC REVIEW OF NORTH PACIFIC HIGH SEAS FISHERIES

A. Incidental catch

121. In its comments on the Sidney meeting, the United States pointed out that one of the most disturbing aspects of the large-scale pelagic driftnet fisheries in the North Pacific Ocean was the variety and magnitude of by-catch

species mortality. It further stated that, according to the information submitted to the Sidney meeting, Japanese estimates from their 1990 squid driftnet fishery showed that to harvest approximately 106 million neon flying squid, over 41 million individuals of over 100 different species were taken. The estimated by-catch included fish (over 39 million), blue sharks (over 700,000) seabirds (over 270,000), salmon (over 141,000), other species of squid (nearly 25,000), marine mammals (nearly 26,000) and sea turtles (406). 23/

122. In its submission to the Secretary-General dated 16 September 1991, Canada noted that the data from the 1990 squid driftnet observer programme with Japan reflected significant by-catches of Pacific pomfret, albacore tuna, blue shark, dolphins, Dall's porpoise, northern fur seal and seabirds. The observed by-catch, which reflected a small but significant portion of total Japanese by-catches, included 3.4 million Pacific pomfret, 90,000 albacore tuna, 82,000 blue shark, 10,000 salmonids of all species, 1,736 dolphins, 840 northern right whale dolphins, 459 Pacific white-sided dolphins and 318 Dall's porpoises. In addition, 253 northern fur seals were killed and 292 were released alive. In the 1990 Japanese squid driftnet fishery alone, 141,279 salmonids were estimated to have been caught. It appears that the majority of these salmonids were of Asian origin and were caught in the western North Pacific. The Sidney meeting considered this level to have no known biological impact, however such salmonid by-catch levels could have an impact if concentrated on specific stocks. The results from the 1991 squid driftnet observer programme should be available in the spring of 1992.

123. This submission proceeded to point out that despite some gaps in information the best available scientific evidence presented at the Sidney meeting gave rise to concerns about the high incidental mortality of seabirds. Some of the bird species were internationally recognized as endangered, and any by-catch was of concern. Clear conclusions were reached at the Sidney driftnet review meeting with respect to the northern right whale dolphin and the Pacific white-sided dolphin. There was consensus that the northern right whale dolphin had suffered a population decline over the past ten years caused by driftnet fisheries. While uncertainty existed regarding the rate and severity of the decline, it was agreed that the population would continue to decline if current catch rates and levels of effort were maintained. With respect to the Pacific white-sided dolphin, it was concluded that the population was at a high level but declining as a result of by-catch due to the driftnet fishery. A number of other species of concern with high incidental catch rates were identified by the scientists. Scientists also noted catches of several endangered or threatened species including Northern right whale, humpback whale, short-tailed albatross, dark-rumped petrel, Newell's shearwater, pink-footed shearwater, and leatherback and green turtles.

124. On the other hand, in its submission dated 23 September 1991, Japan, commenting on the Sidney meeting, stated that the claims for immediate prohibition of high seas driftnet fishing focused only on the numbers of incidental catch by this fishery. According to Japan, the point however was not the absolute number of the incidental catch, but the ratio of the

incidental catch to the total stock size of the species incidentally taken. The ratio, it noted, not the number, was the accurate indicator of the impact of the incidental catch.

125. In its comments, Japan went on to state that it was generally agreed among the scientists that the current level of incidental catch by the Japanese squid driftnet fishery had no detrimental effects on such species as salmon, Pacific white-sided dolphins, the off-shore stock of Dall's porpoise, short-tailed shearwaters, green and loggerhead turtles and others. It noted that, as indicated in the Sidney Report, there was a need for more data concerning northern right whale dolphins, common dolphins, sooty shearwaters, blue sharks and leatherback turtles. The report also showed that data from other driftnet fisheries and further assessment based on subsequent analyses were required in order to reach conclusions on the impact on most species. In the light of the lack of adequate data, it could not be ruled out that, at the present level of operation, some of those species might be declining due to the incidental catch of high seas driftnet fishing operations. Accordingly, Japan expressed the view that efforts were needed to reduce the incidental catch within the limits of the reproductive capabilities of those species.

126. Japan submitted that the results of the Sidney meeting did not support any assertion that any level of high seas driftnet operation would have an unacceptable impact on stocks of marine species, and therefore Japan did not support the introduction of the moratorium.

B. By-catch of endangered and threatened species

127. The Convention on international trade in endangered species of wild fauna and flora (CITES), adopted in 1973, provides international standards in this area by listing the endangered species according to their status and the actual or potential impact of trade on that status, in different appendices. Appendix I includes all species threatened with extinction that are or may be affected by trade. Appendix II includes all species which, although not necessarily now threatened with extinction, may became so unless trade in specimens of such species is subject to strict regulation in order to avoid utilization incompatible with their survival. 24/

128. In their submissions, both the United States and Canada noted that the by-catch of endangered and threatened species in the North Pacific posed a serious concern. In its submission, the United States declared that the known by-catch by large-scale pelagic driftnet fisheries in the North Pacific included three species of turtles listed in CITES (Appendix I) and 15 species of cetaceans listed in CITES (Appendex II). The annual mortality rates for the three species of sea turtles due to driftnet fishing might not be sustainable by those endangered or threatened populations and might place them at greater risk.

129. In its submission to the Secretary-General, Japan noted that at the Sidney meeting concerns were expressed about the possibility of taking endangered and threatened species by high seas driftnet fisheries and stated

that the Fisheries Agency of Japan believed that the incidental catch of those endangered and threatened species should be minimized, although no incidental taking of large whales that are endangered or threatened had been recorded by the Japanese high seas squid driftnet fishery. Japan suggested that it would be necessary to introduce measures, such as the prohibition of fishing operations in certain areas, to avoid the incidental taking of those species.

C. Squid driftnet fisheries

130. In its submission, Canada strongly opposed Japan's unilateral decision to extend the 1989 northern boundary of its squid driftnet fishery, as well as similar boundaries adopted by Taiwan Province of China and the Republic of Korea. The United States has also objected to this extension. 25/

131. A more significant problem, according to the Canadian submission, involved those vessels that cross the squid fishery northern boundary to deliberately target salmon. In particular, vessels from Taiwan Province of China had been sighted in the area of the directed salmon fishery on numerous occasions, and this gave rise to concerns about the extent of those catches, which were illegal under Taiwanese law. Salmon "laundering" is the harvesting and marketing of salmon caught illegally, mostly by Taiwanese fleets in the North Pacific, and processed and sold, in contravention of various laws and policies. Most of it is canned, frozen and re-exported from Thailand, Singapore, Malaysia, Hong Kong and China, Europe and Australia. Attempts at marketing such salmon in and through Canada, the United States and Japan have largely been successfully thwarted through joint and separate enforcement actions by those countries. The size of this trade is currently estimated at 6,000 tons per year.

D. Alternative technology

132. In its submission, Japan claimed that sub-surface driftnets seemed to have the possibility of substantially reducing the incidental catch of seabirds. It was also suggested, in that submission, that in order to develop technology to reduce the incidental catch of other marine species substantial additional research was needed. The Republic of Korea, in its submission to the Secretary-General dated 6 August 1991, outlined a project plan for an experimental survey of North Pacific neon flying squid using sub-surface gill nets.

133. The United States, in its submission, however, stated that, putting aside the difficulty of implementation and enforcement, the submerged net approach did not address the fundamental, international objection to large-scale driftnet technology, that of massive, indiscriminate uncontrolled waste of marine life. Such a piecemeal approach, in its view, even if successful in reducing seabirds or marine mammal take, could not be considered an effective conservation measure in the context of General Assembly resolution 44/225 due to the range and quantities of other species that continued to be caught.

134. It also noted that, despite claims to the contrary, no trials involving modifications to commercial scale driftnets had reduced by-catch without significantly affecting the catch of the target fish and markedly reducing the efficiency of the gear in taking the targeted fish species. This view was also expressed in the submissions of both Australia and New Zealand. With particular reference to sub-surface driftnets, Australia noted that sub-surface setting might in some cases reduce cetacean by-catch, but certainly did not eliminate it. Also, a major problem with changing to sub-surface setting is that it can severely affect the operational manageability of the net, as well as markedly reduce the efficiency of the gear in taking the target fish species.

135. In its submission, Canada stated that it strongly supported the development of alternative selective fishing gear that would minimize the by-catch problem. Canada initiated, through INPFC, a working group of Canadian, United States and Japanese scientists to explore the impact of driftnet gear and to develop alternative fishing gears. This working group will meet again in November 1991. Research on alternative fishing methods such as jigging and longlining is being conducted by the driftnetting countries.

136. According to the United States submission, none of the proposed modifications to existing large-scale driftnet fishing gear and techniques responded to the need for measures to conserve and manage marine living resources effectively. The United States was of the view that further investigation should be aimed at developing alternatives to driftnet fishing for the harvesting of neon flying squid and other high seas commercial species now taken with large-scale driftnets.

E. Conservation and management measures

137. In its submission, Japan stated that "effective conservation and management measures", as called for by the international community, could be established for large-scale driftnet fisheries based on the best scientific information available. Such measures should include: vessel/effort limitation, including a limit on the number of operating vessels; fishing area and season restrictions; establishment of appropriate levels of by-catch for main species; continued collection of statistically reliable data; and the establishment of an effective enforcement regime.

138. The Republic of Korea, in its submission, outlined its position on driftnet fishing. It noted that the prohibition of any specific fishing method on the high seas that is not substantiated by the results of accurate scientific research would be contrary to the spirit of the United Nations Convention on the Law of the Sea. In its submission, the Republic of Korea stated that according to General Assembly resolution 44/225 the moratoria on driftnet fishing would not be imposed or, if implemented, could be lifted, should effective conservation and management measures be taken by the countries concerned. It further stated that, in this regard, Korea wished to

continue squid driftnet fishing in the North Pacific, taking reasonable conservation and management measures, including maximum prevention of the possible incidental catch of species other than squid, which was the target species.

139. The United States, in its submission, stated that certain driftnet fishing countries had claimed that the regulatory measures they had imposed on their large-scale driftnet fishing fleets in the North Pacific constituted conservation and management regimes. These measures included restrictions on time and area fished, the number of vessels licensed for the fishery, mesh size restrictions, and non-retention of salmonid species. The United States stated that it believed that such measures did not constitute conservation and management measures within the meaning of General Assembly resolution 44/225. Taken independently, it was contended, such measures did little to reduce or control the effects of large-scale driftnet fishing on the species killed or the communities impacted, nor did they or would they provide the information necessary for an adequate conservation and management regime. Those measures, it was claimed, could not "ensure" the conservation of the living marine resources of the North Pacific Ocean; they did nothing to detect, assess or prevent unacceptable impact; and they had not served to provide the basis for sustainable levels of fishing.

Notes

1/ Communication from the Inter-American Tropical Tuna Commission to the Secretary-General dated 22 April 1991.

2/ FAO, Report of the Nineteenth Session of the Committee on Fisheries (Rome, 8-12 April 1991, paras. 72-80).

3/ Report submitted by the Northeast Atlantic Fisheries Commission (NEAFC) on the activities of the Commission's contracting parties.

4/ Submission by the International Commission for the Conservation of Atlantic Tunas of 17 April 1991.

5/ Report from the International Whaling Commission.

6/ FAO Committee on Fisheries, COFI/91/5, Suppl.1, April 1991.

7/ Submission of Australia to the Secretary-General dated 6 September 1991.

8/ This description is excerpted from the Report on the Scientific Review of North Pacific High Seas Driftnet Fisheries, Sidney, B.C., 11-14 June 1991, which was presented to the United Nations pursuant to resolutions 44/225 and 45/197.

9/ Ibid., p. 3.

Notes (continued)

10/ Eiji Tanaka, "Population trajectories and effects of incidental takes by the squid driftnet fishery on Pacific white-sided dolphin and northern right whale dolphin using hitter/fitter model", Scientific Review of North Pacific high seas driftnet fisheries, Compendium of documents submitted to the meeting.

11/ Toshihide Iwasaki, "Preliminary analysis of life history parameters of Pacific white-sided dolphins and northern right whale dolphins", Scientific Review of North Pacific high seas driftnet fisheries, Compendium of documents submitted to the meeting.

12/ Yukimasa Ishida and Miki Ogura, "Salmon distribution and impact of the Japanese squid driftnet fishery on salmon resources in the North Pacific", Scientific Review of North Pacific high seas driftnet fisheries, Compendium of documents submitted to the meeting.

13/ "A project plan for experimental survey of North Pacific neon flying squid by using sub-surface gillnet", Scientific Review of North Pacific high seas driftnet fisheries, Compendium of documents submitted to the meeting.

14/ This is a joint report of the Republic of Korea National Fisheries Research and Development Agency and United States National Marine Fisheries Service and United States Fish and Wildlife Service.

15/ The status of the albacore stock was to be examined fully in July 1991 at the 12th North Pacific Albacore Workshop in Japan. No information on this workship is available.

16/ Hideki Nakano and Yoh Watanabe, "Effect of high seas driftnet fisheries on blue shark stock in the North Pacific", Scientific Review of North Pacific high seas driftnet fisheries, Compendium of documents submitted to the meeting.

17/ George H. Balazs and Jerry A. Wetherall, "Assessing impacts of North Pacific high-seas driftnet fisheries on marine turtles: progress and problems", Scientific Review of North Pacific high seas driftnet fisheries, Compendium of documents submitted to the meeting.

18/ Takeshi Kajihara, Itaru Uchida and Hiroshi Hatanaka, "Effects of the Japanese squid driftnet fishery on sea turtle stocks in the North Pacific", Scientific Review of North Pacific high seas driftnet fisheries, Compendium of documents submitted to the meeting.

19/ Haruo Ogi, Akira Nitta, Hiroshi Hatanaka, "Effects of the Japanese squid driftnet fishery on the sooty and short-tailed shearwater populations", Scientific Review of North Pacific high seas driftnet fisheries, Compendium of documents submitted to the meeting.

Notes (continued)

20/ See Appendix I of the Convention on international trade in endangered species of wild fauna and flora (CITES), International Council for Bird Preservation Red Data Boom, U.S. Code of Federal Regulations 50.17.11-12 (15 April 1990), and Japan's Law for Protection of Cultural Properties.

21/ Haruo Ogi, Akihiko Yatsu and Hiroshi Hatanaka, "Stock status and mortality of some pelagic seabirds by the Japanese squid driftnet fishery", Scientific Review of North Pacific high seas driftnet fisheries, Compendium of documents submitted to the meeting.

22/ During normal driftnet operation, set and retrieval of nets are conducted in a 24-hour period. When the catch is exceptionally good, however, this cycle of operation extends to more than 24 hours (up to 2 or 3 days) as retrieval of catch from nets requires more time. This extended operation is called "tome ami". The Sidney Report, p. 56.

23/ A. Yatsu and S. Hayase (1991), "Estimation of total catch and by-catch of the Japanese squid driftnet fishery in 1989 and 1990", Fishery Agency of Japan, Tokyo, Japan.

24/ International Legal Materials, 1973, vol. XII, p. 1085.

25/ See A/45/663 and Corr.1, para. 89.

UNITED
NATIONS

A

General Assembly

Distr.
GENERAL

A/46/615/Corr.1
18 November 1991

ORIGINAL: ENGLISH

Forty-sixth session
Agenda item 77 (e)

DEVELOPMENT AND INTERNATIONAL ECONOMIC COOPERATION:
ENVIRONMENT

Large-scale pelagic driftnet fishing and its impact on the living marine resources of the world's oceans and seas

Report of the Secretary-General

Corrigendum

1. Page 4, paragraph 9 (d), line 1

   For 3 December 1993 read 31 December 1993

2. Page 5, paragraph 9 (e), line 1

   For 13 December 1993 read 31 December 1993

3. Page 5, paragraph 10, lines 11 and 12

   For Australia, New Zealand, Fiji and Indonesia read Australia, Fiji, Indonesia, New Zealand and United States.

4. Page 9, paragraph 34, line 1

   For Sixteen countries read Fifteen countries

5. Page 9, paragraph 36, last line

   For agree to prohibit fishing in such waters read agree to prohibit driftnet fishing by their vessels and nationals within the Convention area as well as areas under their fisheries jurisdiction.

6. Page 21, paragraph 104, line 2

For fisheries read fishery

7. Page 27, paragraph 131, line 10

For Singapore, Malaysia, Hong Kong and China, Europe and Australia read Singapore, Malaysia, Hong Kong and China to Europe and Australia.

UNITED
NATIONS

A

General Assembly

Distr.
GENERAL

A/46/615/Add.1
18 November 1991

ORIGINAL: ENGLISH

Forty-sixth session
Agenda item 77 (e)

DEVELOPMENT AND INTERNATIONAL ECONOMIC COOPERATION: ENVIRONMENT

Large-scale pelagic driftnet fishing and its impact on the living marine resources of the world's oceans and seas

Report of the Secretary-General

Addendum

II. THE ACTIVITIES OF INTERGOVERNMENTAL ORGANIZATIONS

1. In the communiqué issued by Heads of Government of the countries of the Commonwealth at Harare on 22 October 1991, the Commonwealth Heads of Government "expressed concern at the continuation of large-scale driftnet fishing and the threat this posed to the marine environment. They urged all countries to comply with United Nations General Assembly resolutions 44/225 and 45/197 and welcomed the prohibition of fishing with long driftnets in the South Pacific."

2. The communiqué issued by the South Pacific Forum on 30 July 1991, inter alia, reaffirmed the Tarawa Declaration and General Assembly resolutions 44/225 and 45/197.

3. On 31 October the South Pacific Conference meeting in Nuku'Alofa, Tonga, adopted a resolution on large-scale pelagic driftnet fishing. The Conference, inter alia, reaffirmed General Assembly resolutions 44/225 and 45/197, noted its appreciation for the undertakings that had been given to cease driftnet fishing in its region and welcomed the entry into force of the Convention for the Prohibition of Fishing with Long Driftnets in the South Pacific.

III. REVIEW BY REGIONS

A. Atlantic Ocean

4. At its seventh session held in Kingston, Saint Vincent and the Grenadines from 8 to 14 November 1990, the Western Central Atlantic Fishery Commission (WECAFC) discussed the question of large-scale pelagic driftnet fishing and, in accordance with General Assembly resolution 44/225, recommended the imposition of a moratorium on large-scale pelagic driftnet fishing on the high seas of the whole area of competence of the Commission by June 1992. In doing so the Commission noted that no effective conservation and management measures were known which could control this fishery and recommended that the statistical analysis mentioned in the General Assembly resolution be carried out rapidly in order to determine the management and conservation measures required for the utilization of some of these gears. The Commission also specifically recommended that, in accordance with the General Assembly resolution, large-scale pelagic driftnet should not be redeployed in the region.

5. The following information from members of the Western Central Atlantic Fishery Commission was provided by FAO.

6. Mexico reported that no fishing activities are carried out in Mexico with that kind of fishing gear. Therefore the decision to apply the moratorium in the Western Central Atlantic Fisheries Commission region is not applicable to Mexican fisheries.

7. Japan replied that the Government of Japan has prohibited large-scale driftnet fisheries by its vessels on the high seas outside the North Pacific, including the Atlantic Ocean since August 1990, in response to paragraph 4 (c) of the United Nations resolution.

8. Barbados stated that a ban on the use of large-scale pelagic driftnet fishing is included in the conservation measures contained in the new fisheries legislation which is being prepared for enactment.

9. Cuba stated that it has not taken any measures to deal with the use of this fishing gear since it is not used in Cuba and there is no plan to use this type of fishing gear in the future.

10. Panama expressed its willingness to apply the conservation and management measures adopted at the seventh session of WECAFC.

11. The United States of America stated that, with respect to the Commission's recommendation, in accordance with resolution 44/225, as no effective conservation and management measures were known which could control this fishery, a moratorium on large-scale pelagic driftnet fishing on the high seas of the whole areas of competence of the Commission should be imposed by 30 June 1992. The United States reports that the President of the United States signed into law the "Fishery Conservation Amendments of 1990" on

28 November 1990. Under this law, United States fishermen are prohibited from utilizing large-scale pelagic driftnet fishing techniques within the United States exclusive economic zone (EEZ) as well as in high seas areas beyond the EEZ of any coastal nation, including the area of competence of the Commission.

B. Indian Ocean

12. The following information from members of the Indian Ocean Fishery Commission (IOFC) was provided by FAO.

13. Seychelles stated that there were no pelagic driftnet fishing vessels licensed in Seychelles. It further noted that from the information obtained from the Seychelles Fishing Authority observers and from other fishing vessels, this fishing technique has not been observed in the Western Indian Ocean.

14. In its response Japan noted that in paying due respect to General Assembly resolution 44/225, the Government of Japan took measures, effective 15 August 1990, to prohibit large-scale driftnet fishing in the waters other than the Pacific Ocean, such as the Indian and Atlantic Oceans.

15. In Malaysia, the use of driftnets is very common among fishermen. They are mainly operated from small boats within 12 miles from shore. They are known to be selective in nature. However, there is a new kind of driftnet, with bigger mesh size, to catch Ray fish. The latter operation has proven to have adverse impact on non-targeted species like turtles. Malaysia has imposed a ban on the use of the driftnet with a mesh size of more than 25.4 cm. Action will be taken to monitor the possible existence of large-scale pelagic driftnetters in Malaysian waters in the near future and it is considering the possible imposition of a ban on the use of large-scale driftnets after studies are done on the existing driftnets, as to its size, length, area of operation, catch composition and impact on non-targeted species.

16. Oman confirmed that driftnets are not used at present in the Sultanate.

17. Saudi Arabia noted that the Kingdom does not have fishing ships operating on the high seas of the Indian Ocean for the time being, and it will take the moratorium into consideration in case the Kingdom wishes to undertake large-scale pelagic driftnet fishing activities in the future.

18. Australia replied that it was particularly concerned that fleet displacement of effort into the Indian Ocean should not take place, not only for the protection of the threatened southern bluefin tuna but also for the protection of other marine resources. Consequently, Australia has supported implementation of the United Nations resolution and its reinforcement through a number of international forums, including the International Whaling Commission. Australia is of the view that driftnetting incurs significant waste and environmental damage, and should be replaced by other, more

selective fishing methods. Australia is concerned that in many cases data on high seas driftnetting has not been collected or, if collected, made available. The Indian Ocean is a case in point. Nevertheless, the evidence which has been obtained from large-scale driftnet fisheries indicates clearly that these fisheries present an unusually high degree of risk in terms of their capacity to deplete fish and wildlife populations on the high seas before any meaningful scientific assessment can be undertaken or effective management regimes developed.

19. In Australia, Fisheries Notice AFZ 1, proclaimed by the Minister for Primary Industries and Energy on 25 July 1989, prohibited the taking of fish in proclaimed waters with the use of a pelagic gillnet or driftnet of a kind specified in the Schedule; and prohibited persons from having in their possession or charge, in a boat in proclaimed waters, equipment of the kind specified in the Schedule unless that equipment is stowed and secured below deck. The Schedule to the Notice specifies a pelagic gillnet or driftnet the total length of which is more than 2.5 km. Driftnet vessels continue to be prohibited from entering Australian ports except in case of emergency and transshipment of driftnet-caught product in the Australian fishing zone also is prohibited. Legislation is currently being prepared which will make it an offence for Australian nationals to engage in driftnetting beyond the AFZ. This legislation will enable Australia to implement more effectively the United Nations resolutions and to ratify the Convention for the Prohibition of Fishing with Long Driftnets in the South Pacific, 1989, done in Wellington.

20. The United States reported that it supported fully the Committee's recommendation that, in accordance with General Assembly resolution 44/225, a moratorium on large-scale pelagic driftnet fisheries should be implemented in the high seas region of the Indian Ocean by 30 June 1992. The United States further reported that the President of the United States signed into law the "Fishery Conservation Amendments of 1990" on 28 November 1990. Under this law, United States fishermen are prohibited from utilizing large-scale pelagic driftnet fishing techniques within the United States exclusive economic zone (EEZ) as well as in high seas areas beyond the EEZ of any coastal nation, including the high seas region of the Indian Ocean.

21. Madagascar replied that it does not have any tuna fleet operating in the Indian Ocean. Within the framework of fishery agreements concluded with foreign countries, only tuna purseiners, longliners and pole and line vessels are authorized to fish in Malagasy waters. The Malagasy Government has no objection to the adoption of the recommended moratorium.

C. South Pacific

22. On 24 September 1991 Canada signed the Protocol II; Chile signed this Protocol on 1 November 1991.